

Material Safety Data Sheets (MSDS)

Chloroform

Identification of Product

Chemical Code: HPLC-C1

Chemical Name: Chloroform

Chemical Grade: HPLC

Chemical Formula: CHCl_3

Chemical Weight: 119,38 g/mol

CAS No: 67-66-3

Chemical Synonyms: Trichloromethane

Methyldyne Trichloride

Hazards Identification

REACH No: No Data Available

Signal Word: Danger

Supplemental Hazard Information:

Additional Hazard Information: This substance contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.



Hazards statements

H302 - Harmful if swallowed.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H331 - Toxic if inhaled.

H336 - May cause drowsiness or dizziness.

H351 - Suspected of causing cancer.

H361d - Suspected of damaging the unborn child.

H372 - Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P261 - Avoid breathing vapours.

P281 - Use personal protective equipment as required.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P311 - Call a POISON CENTER or doctor/ physician.

Composition of Chemical

Chemical Formula: CHCl_3

EC No 1272/2008: No Data Available

First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If: Inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If: Skin Contact: Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

If: Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If: Swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Important Symptoms: The most important known symptoms and effects are described in the labeling section.

Immediate Medical Attention: No Data Available

Firefighting Measures

Extinguishing Media: Use Water spray, Alcohol-resistant foam, Dry chemical or Carbon Dioxide.

Hazards Arising: Carbon Oxides, Hydrogen Chloride gas

Advice for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Info for Firefighting: No Data Available

Accidental Release Measures

Personal Precautions: Wear respiratory protection.

Avoid breathing vapours, mist or gas.

Ensure adequate ventilation.

Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so.

Do not let product enter drains.

Discharge into the environment must be avoided.

Method for Containment: Soak up with inert absorbent material and dispose of as hazardous waste.

Keep in suitable, closed containers for disposal.

Handling and Storage

Personal Precautions: Avoid contact with skin and eyes.

Avoid inhalation of vapour or mist.

Environmental Precautions: Store in cool place.

Keep container tightly closed in a dry and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

Exposure Controls | Personal Protection

Derived No Effect Level (DNEL)

Workers | Application Area | Exposure Routes | Health Effect | Value

No Data Available

Consumers | Application Area | Exposure Routes | Health Effect | Value

No Data Available

Predicted No Effect Concentration (PNEC)

No Data Available

Engineering Controls: No Data Available

Eye/Face Protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact -

Material: Fluorinated rubber. Minimum layer thickness: 0,7 mm

Break through time: 480 min. Material tested: Vitoject®.

Splash contact -

Material: Fluorinated rubber. Minimum layer thickness: 0,7 mm

Break through time: 480 min. Material tested: Vitoject®.

Data source: KCL GmbH, D-36124. Test method: EN374.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Physical and Chemical Properties

Appearance: Colourless, highly refractive liquid

Odour: Characteristic Odour

Odour Threshold: No Data Available

pH: No Data Available

Melting Point: Melting point/range: -63 °C

Boiling Point: 60,5 - 61,5 °C

Flash Point: No Data Available

Evaporation: No Data Available

Flammability: No Data Available

Upper/Lower Flammability or Explosive Limits: No Data Available

Vapour pressure: 213,3 hPa (20,0 °C)

Vapour density: No Data Available

Relative density: 1,492 g/mL (25 °C)

Water solubility: No Data Available

Partition Coefficient: log Pow: 1,97

Auto-ignition Temperature: No Data Available

Decomposition Temperature: No Data Available

Viscosity: No Data Available

Explosive properties: No Data Available

Oxidizing properties: No Data Available

Other Safety Info: Surface tension: 27,1 mN/m (20,0 °C)

Stability and Reactivity

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No Data Available

Conditions to Avoid: No Data Available

Incompatible Materials: Strong oxidizing agents, Strong bases, Magnesium, Sodium/Sodium Oxides, Lithium

Hazardous Decomposition Products: No Data Available

Toxicological Information

Acute Toxicity: LD50 Oral - Rat - 908 mg/kg

Remarks: Behavioral: Change in motor activity (specific assay). Behavioral: Ataxia. Lungs, Thorax, or Respiration: Respiratory stimulation.

LOEC Inhalation - Rat - male - 6 h - 500 ppm

LD50 Dermal - Rabbit - > 20.000 mg/kg

Skin Corrosion/Irritation: Rabbit

Result: Irritating to skin. - 24 h

Serious Eye damage | Eye Irritation: Rabbit

Result: Irritating to eyes. - 24 h

Cell Mutagenicity: Laboratory experiments have shown mutagenic effects.

Carcinogenicity: Carcinogenicity - Rat - Oral

Tumorigenic: Carcinogenic by RTECS criteria. Leukaemia

The National Cancer Institute (NCI) has found clear evidence for carcinogenicity. Limited evidence of a carcinogenic effect.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Chloroform)

Reproductive toxicity: Suspected of damaging the unborn child.

Suspected human reproductive toxicant

Specific Target Organ Toxicity - Single Exposure: May cause drowsiness or dizziness.

Specific Target Organ Toxicity - Repeated Exposure: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1. - Liver, Kidney

Aspiration Hazard: No Data Available

Ecological Information

Ecological Toxicity: Toxicity to fish:

LC50 - *Leuciscus idus* (Golden orfe) - 162 mg/l - 48 h,

LC100 - *Leuciscus idus* (Golden orfe) - 220 mg/l - 48 h,

LC50 - other fish - 97 mg/l - 96 h,

LC50 - *Danio rerio* (zebra fish) - 121 mg/l - 96 h,

NOEC - *Oryzias latipes* - 122 mg/l - 10 d,

NOEC - *Oncorhynchus mykiss* (rainbow trout) - 24 mg/l - 96 h.

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water flea) - 79,00 mg/l - 24 h.

Immobilization:

EC50 - *Daphnia magna* (Water flea) - 51,6 mg/l - 48 h,

NOEC - *Daphnia magna* (Water flea) - 120 mg/l - 11 d.

Toxicity to algae:

EC50 - No information available. - 500,00 mg/l - 24 h

Ecological Persistence and degradability: No Data Available

Bioaccumulative Potential: Bio-accumulation: *Lepomis macrochirus* (Bluegill) - 14 d - 0,11 mg/l

Bio-concentration factor (BCF): 6

Mobility in Soil: No Data Available

Results of PBT and vPvB Assessment: This substance contains no components considered to be either persistent, bio-accumulative and toxic (PBT), or very persistent and very bio-accumulative (vPvB) at levels of 0.1% or higher.

Other Adverse Effect: Harmful to aquatic life.

Disposal Considerations

Waste Treatment Methods: Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging - Dispose of as unused product.

Transport Information

UN Number: ADR/RID: 1888

IMDG: 1888

IATA: 1888

UN Shipping Hazard: ADR/RID: CHLOROFORM

IMDG: CHLOROFORM

IATA: Chloroform

Transport Hazard Class: ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

Packaging Group: ADR/RID: III

IMDG: III

IATA: III

Environmental Hazards: ADR/RID: no

IMDG Marine pollutant: no

IATA: no

Special Precautions: No Data Available

Regulatory Information

Safety, Health and environmental regulations: This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical Safety Assessment: For this product a chemical safety assessment was not carried out.

Additional Info: RTECS: FS9100000

Vomiting, Gastrointestinal disturbance.

Exposure to and/or consumption of alcohol may increase toxic effects.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Disclaimer

The information stated above is considered to be correct, but does not claim to be inclusive and shall only be used as a guideline. The information provided by this document is confirmed by our continuous updating of knowledge and adheres to the products appropriate safety precautions. It does not represent any guarantee of the product's properties. RLS Chemicals and its Associates shall not be held accountable for any damage's consequent of handling the above product.
